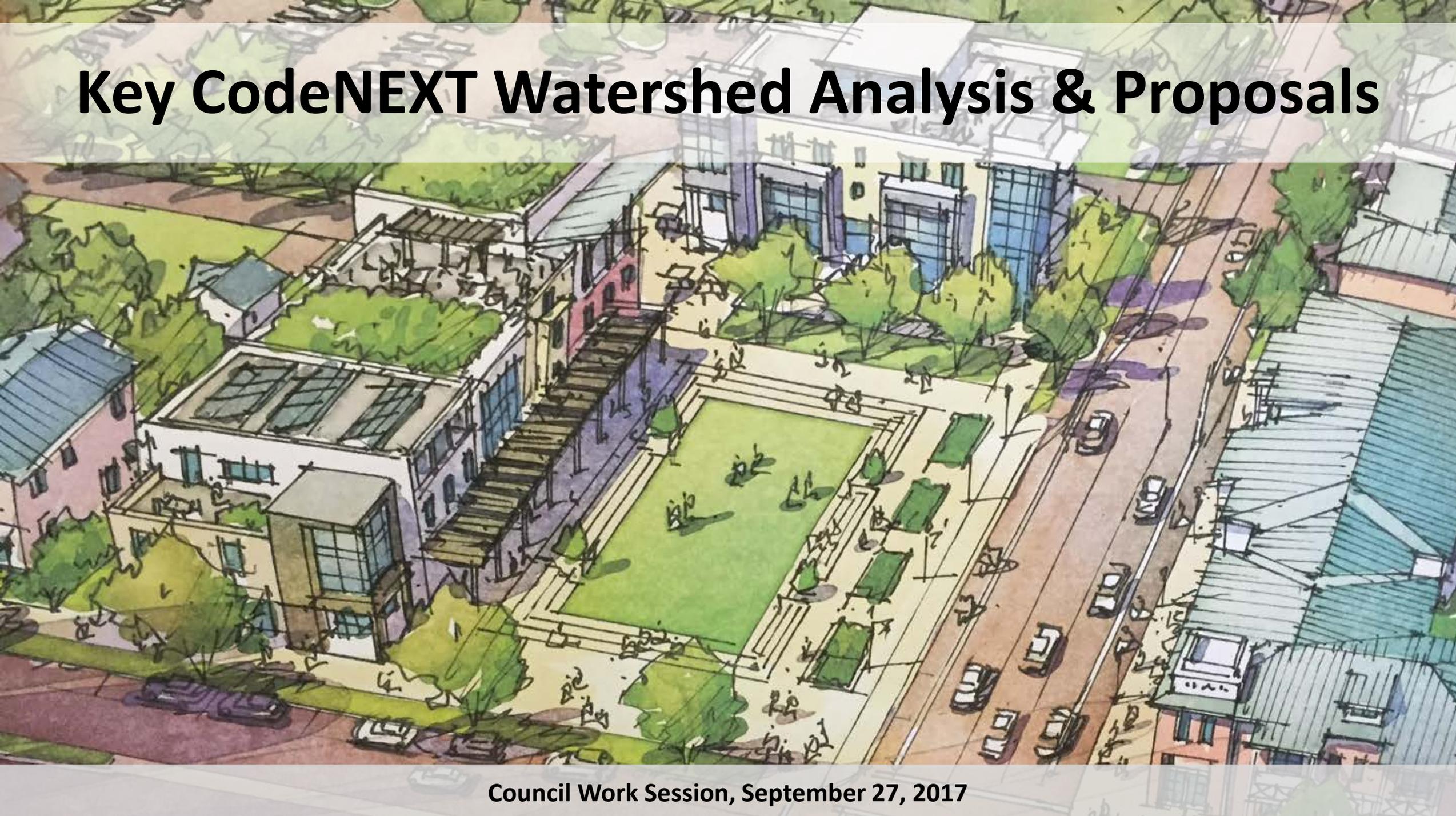


Key CodeNEXT Watershed Analysis & Proposals

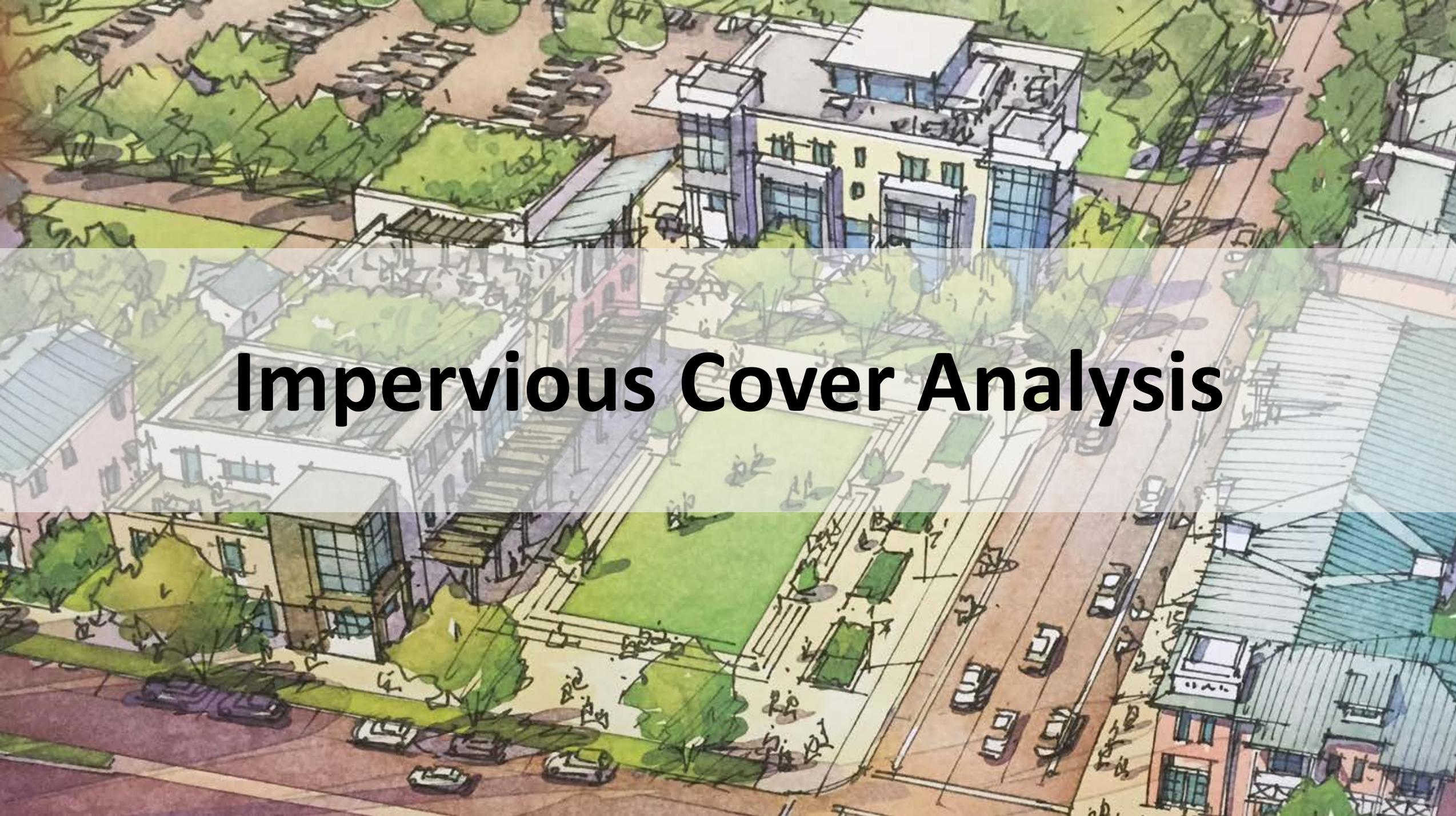


Council Work Session, September 27, 2017

Overview of Presentation

- Balancing Austin's priorities
- Impervious cover analysis
- Maintain existing watershed protections
- Flood Mitigation for Redevelopment
- Green Infrastructure /
Beneficial Use of Stormwater
- Next Steps for Draft 3



An aerial architectural sketch of a city block. The drawing shows several multi-story buildings with various architectural styles, including modern glass-fronted structures and older brick buildings. A central green lawn is surrounded by trees and walkways. A street with several cars is visible on the right side. The overall style is a detailed, hand-drawn sketch with a focus on urban planning and landscape design.

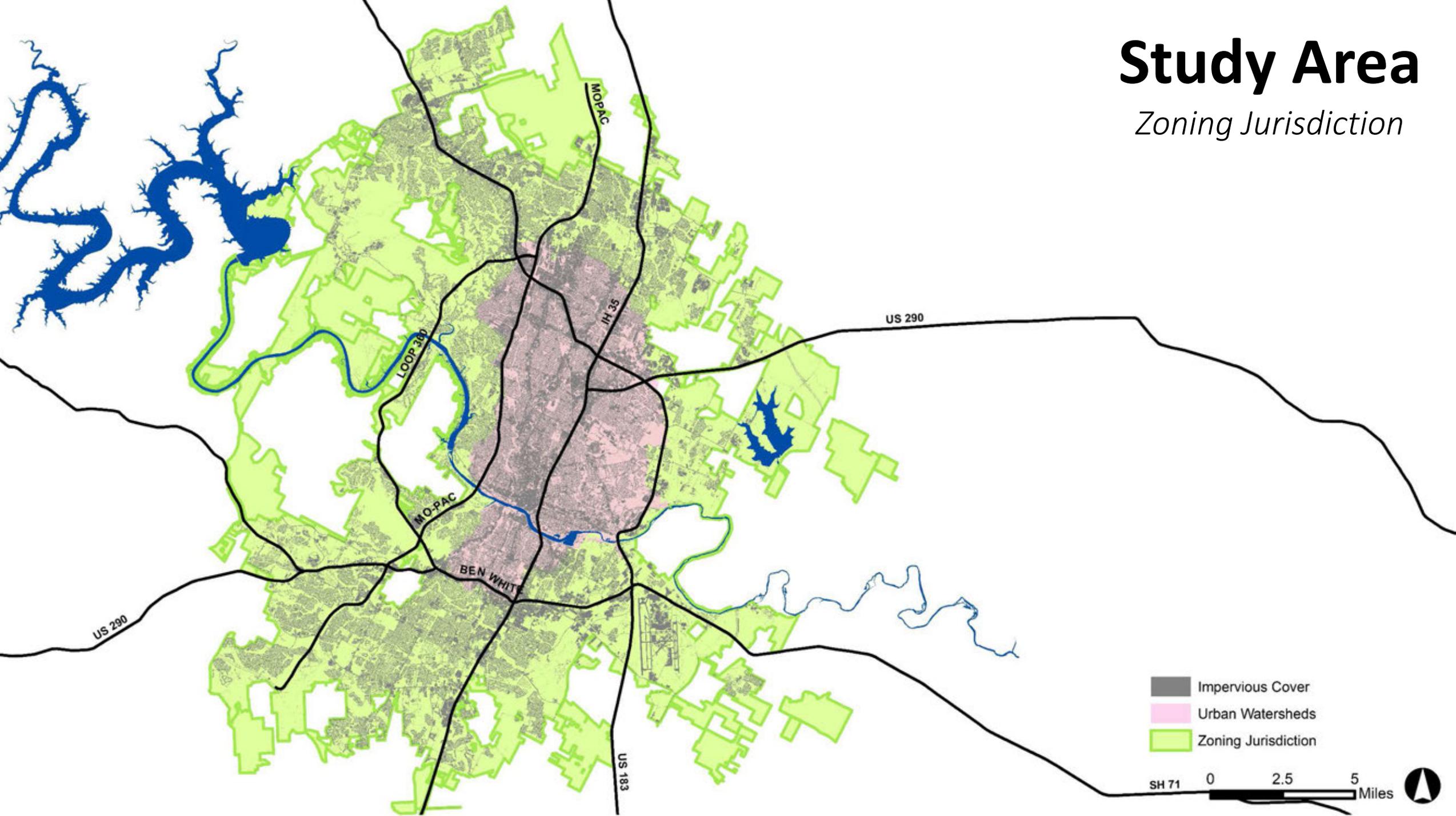
Impervious Cover Analysis

Purpose of Impervious Cover Analysis

- Compare **maximum** impervious cover allowed by CodeNEXT vs. maximum allowed by current code.
 - 100-year floodplain and drainage infrastructure implications
- Understand areas of change

Study Area

Zoning Jurisdiction



Impervious Cover Analysis Results (Draft 1 - updating soon)

Watershed	Watershed Area Within City Limits (acres)	Existing Impervious Cover (%)	Allowed Maximum Impervious Cover (%)		Difference between Current and Proposed Entitlements
			Current LDC	Proposed LDC	
Total	214,775	25%	49.6%	49.8%	0.3%
Urban Watersheds	38,594	48%	64.4%	64.1%	-0.4%

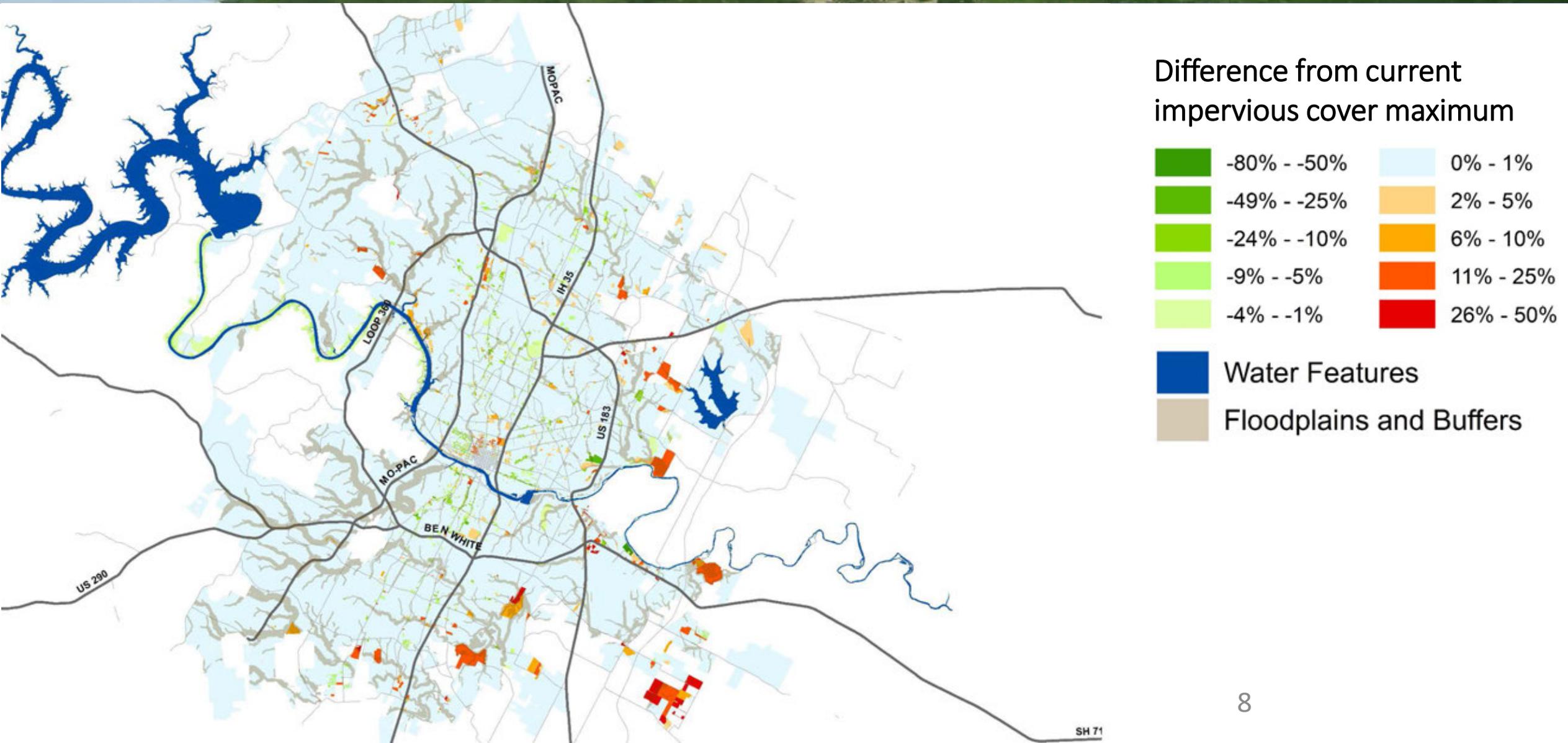
Note: This analysis does **not** account for environmental protections that may be located on a parcel, including stream buffers, steep slopes, Critical Environmental Feature setbacks, and protected trees. These protections potentially lower the total amount of impervious cover for any given parcel.

Impervious Cover Analysis Results (Draft 1 - updating soon)

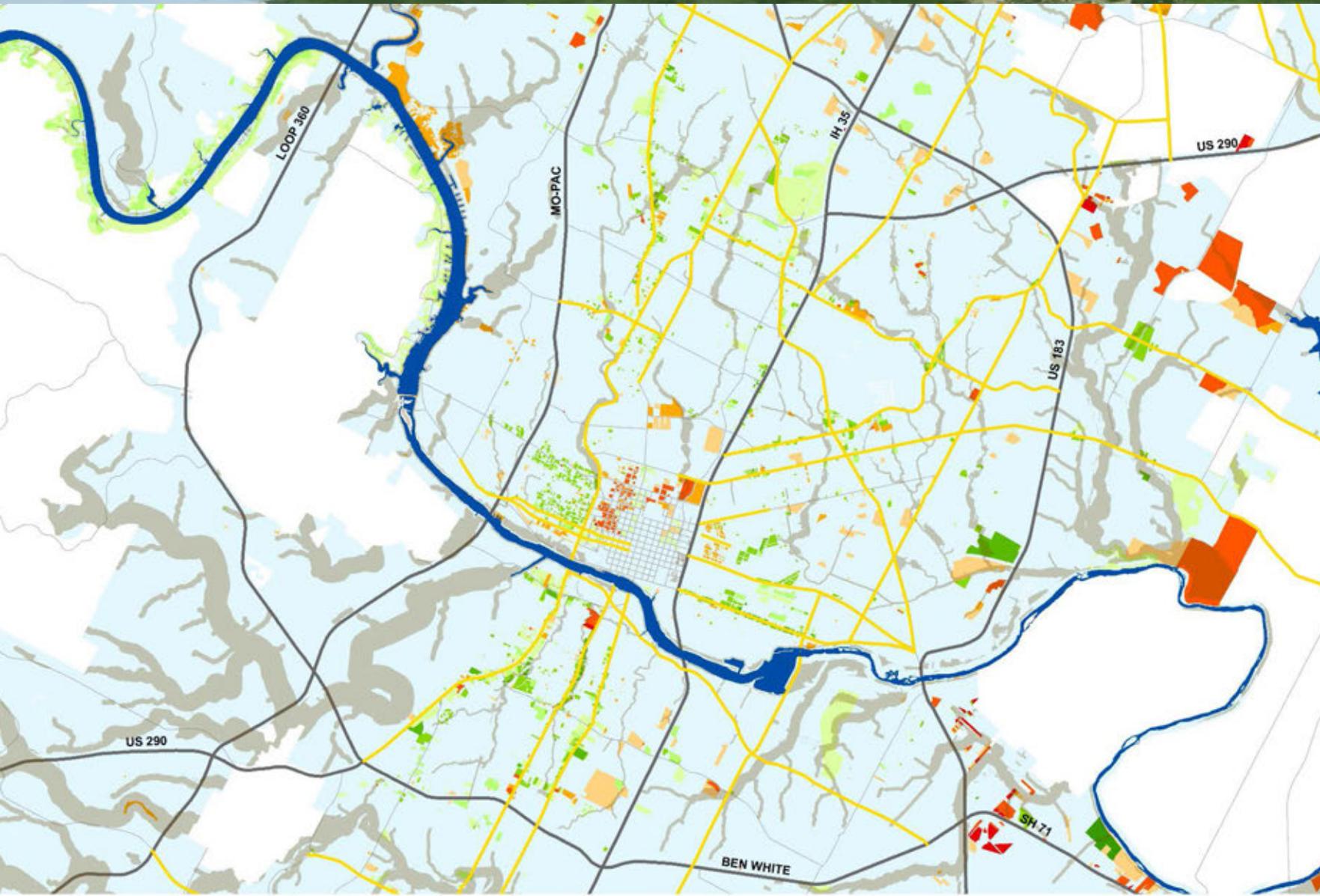
Existing Zoning	Percent of City	Existing IC	Current Max IC	Proposed Max IC	Pct Unbuilt IC Increase
Single-Family	33%	20%	34%	35%	18%
Public	12%	6%	24%	24%	8%
Commercial/Multifamily	29%	32%	67%	66%	40%
PUDs	13%	7%	67%	67%	32%
No Zoning	14%	55%	59%	59%	1%
Grand Total	100%	25%	49.6%	49.8%	100%

- Commercial, Multifamily, and PUD zoning categories represent over 70% of unbuilt impervious cover entitlements.
- Under the new proposal, these properties would have to prove no adverse impact relative to undeveloped conditions.

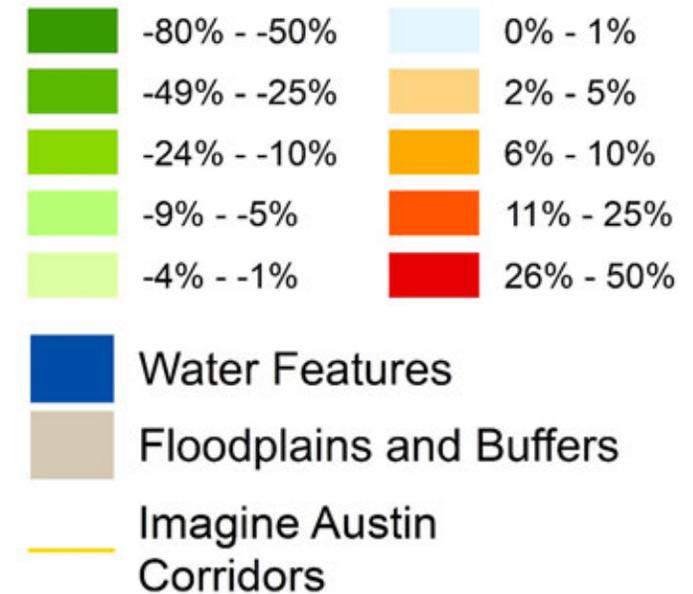
Impervious Cover Analysis Results (Draft 1 - updating soon)



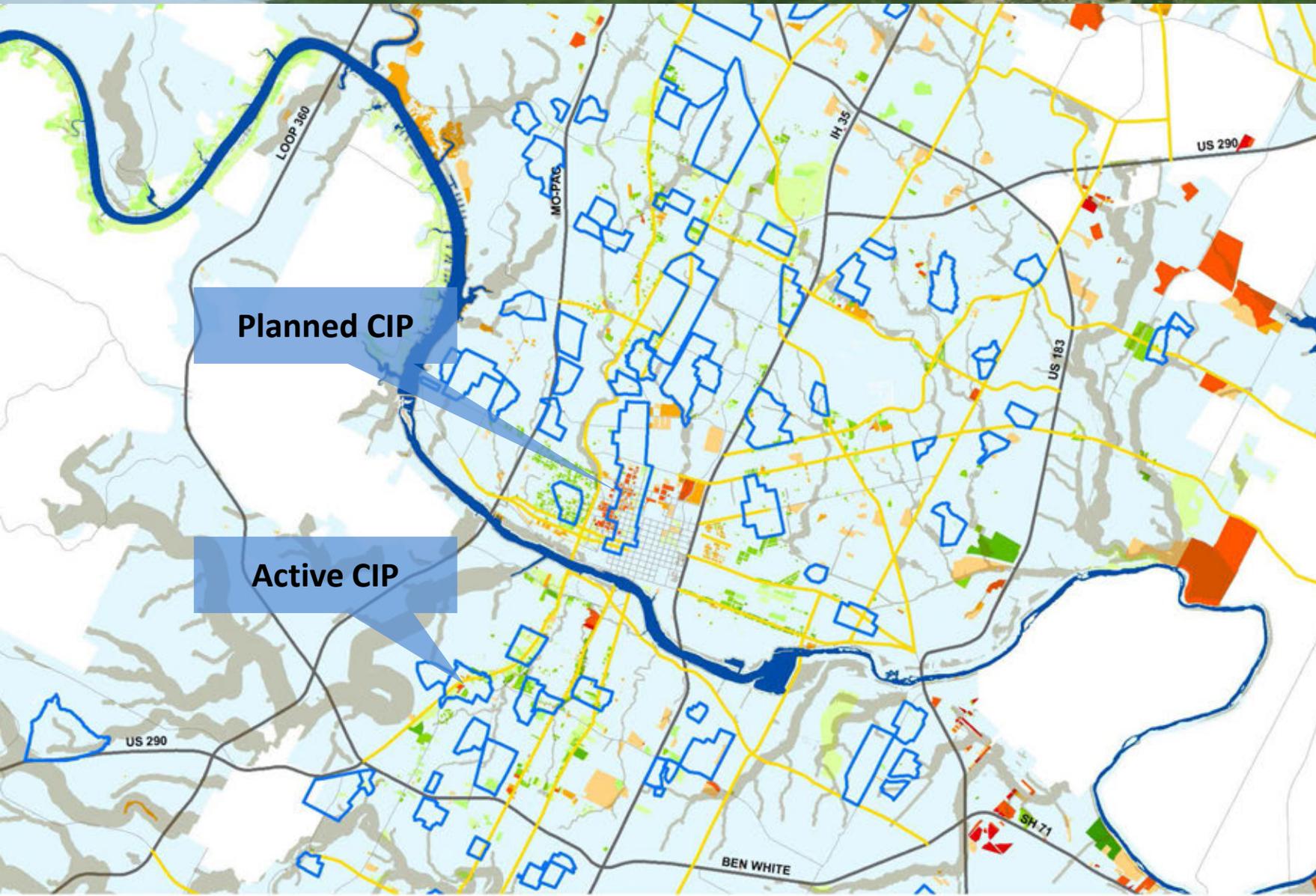
Impervious Cover Analysis Results (Draft 1 - updating soon)



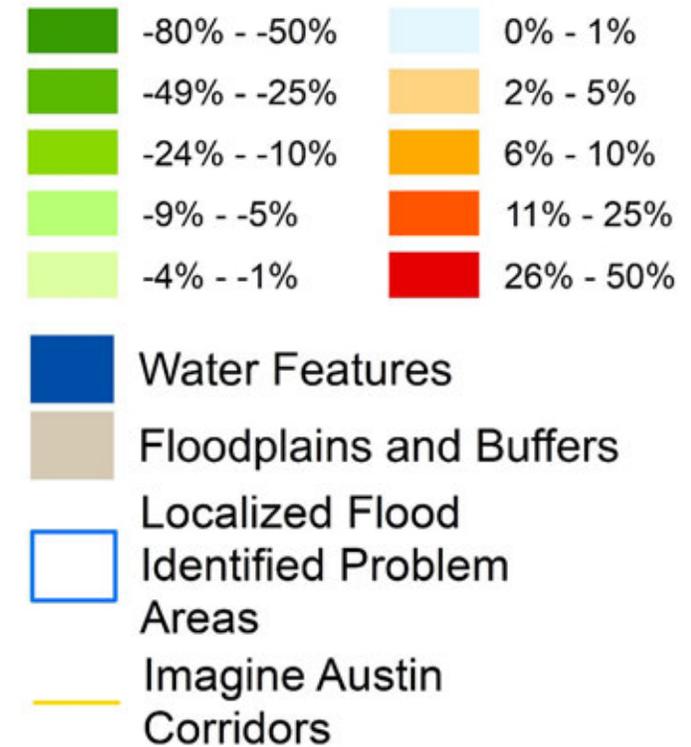
Difference from current
impervious cover maximum



Impervious Cover Analysis Results (Draft 1 - updating soon)



Difference from current
impervious cover maximum

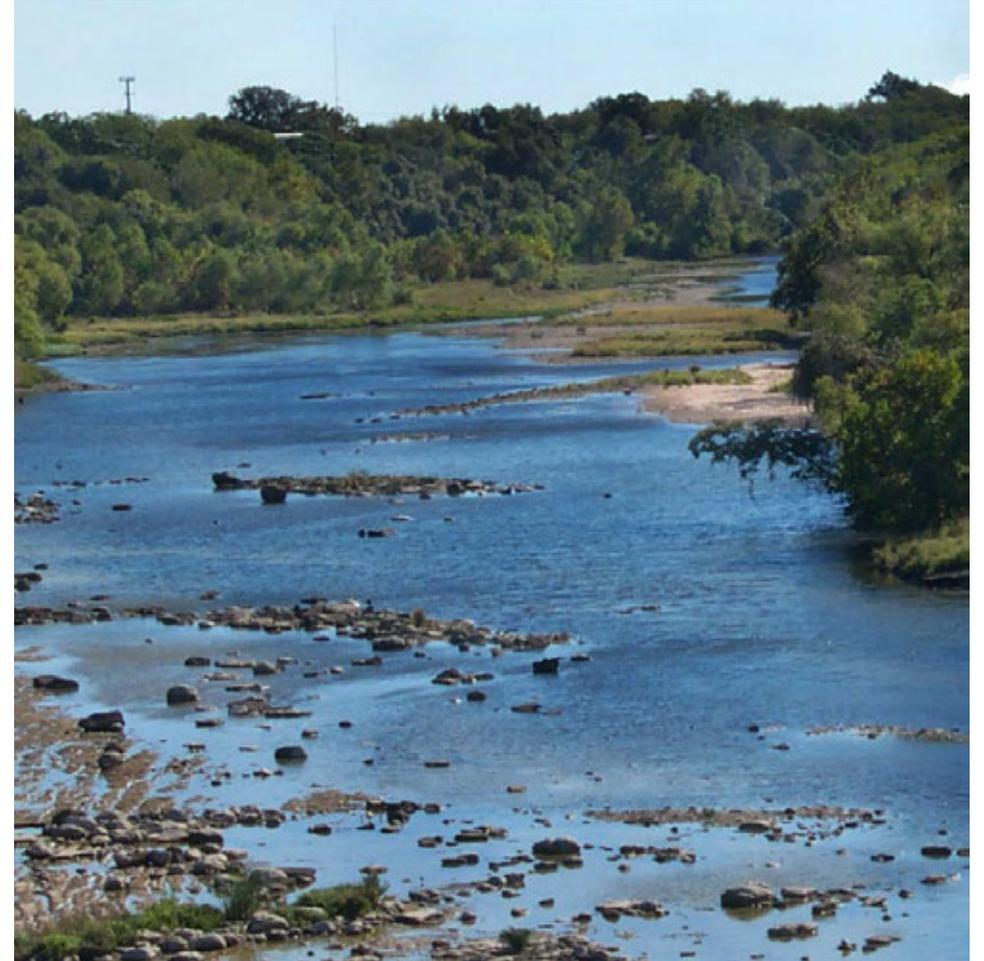


An aerial architectural rendering of a city block. The scene features several modern, multi-story buildings with large windows and flat roofs. A central green space with trees and walkways is visible. A street with cars and a sidewalk with trees runs along the right side. The overall style is a detailed, colorful sketch or digital painting.

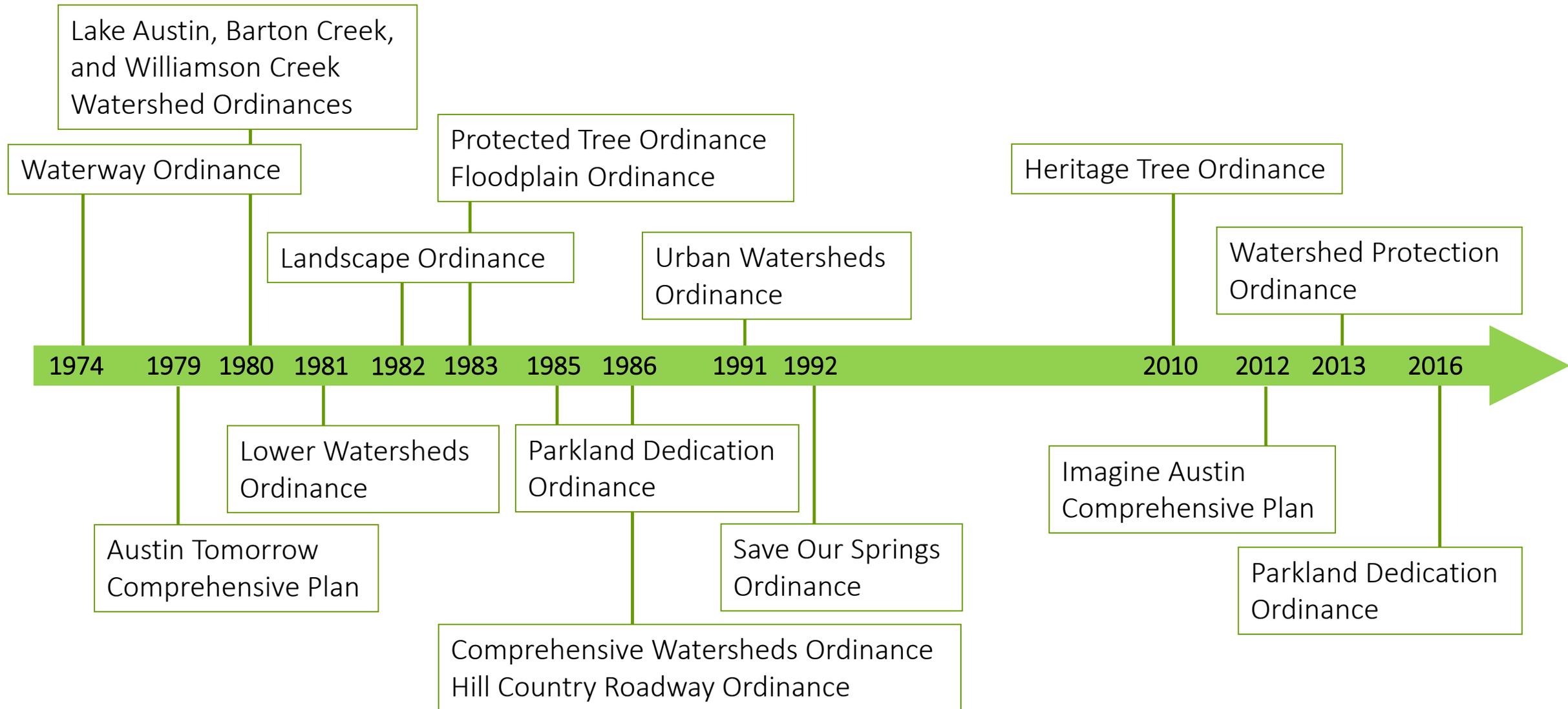
CodeNEXT Proposal

Maintain Existing Watershed Protections

- CodeNEXT proposes to preserve existing watershed regulations, including:
 - Floodplain protections
 - Drainage standards
 - Stream & lake buffers
 - Watershed impervious cover limits
 - Critical Environmental Features
 - Steep slope protections
 - Cut and fill limits
 - Erosion & sedimentation controls
 - Structural stormwater controls
 - Tree protections

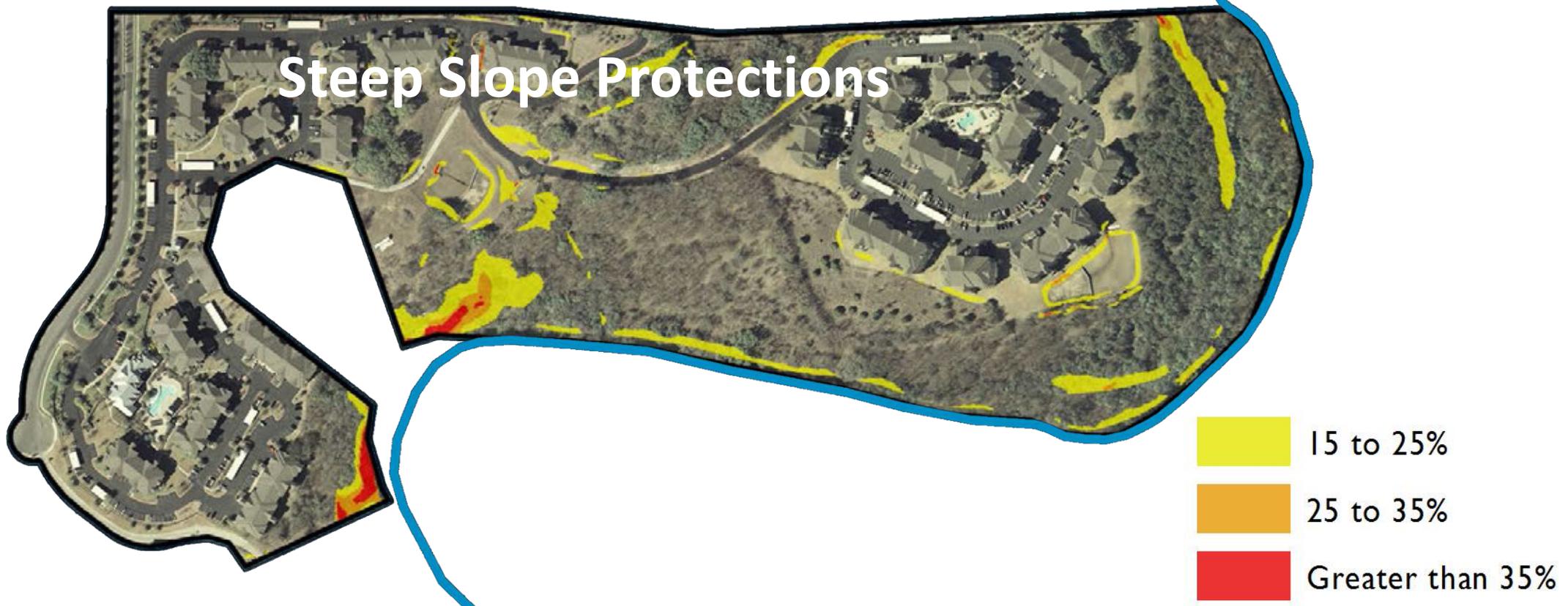


History of Environmental & Drainage Regulations

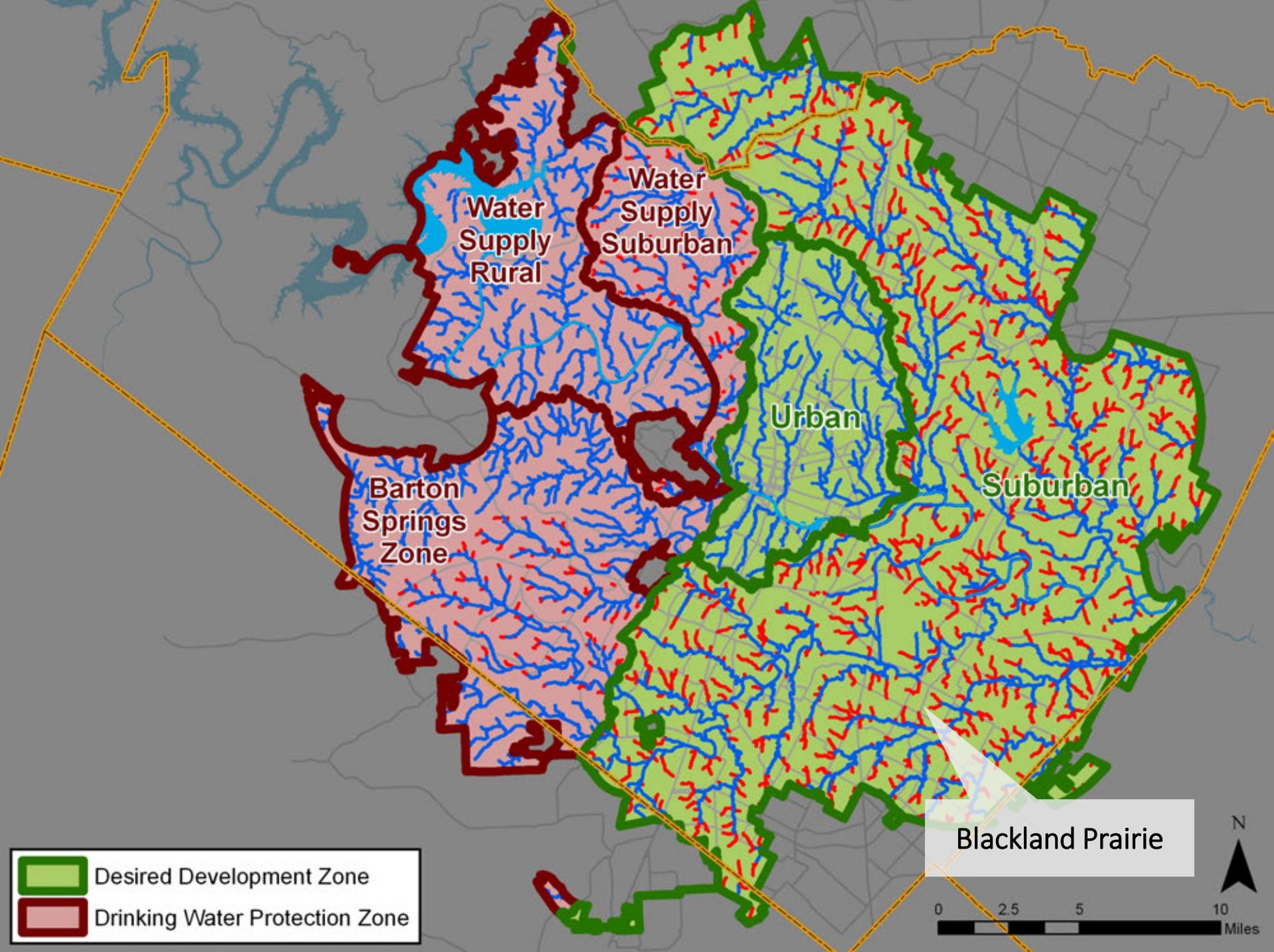


Existing Watershed Regulations

- CodeNEXT proposes to preserve existing watershed regulations, including:



2013 Watershed Protection Ordinance extended protection to 400 miles of headwaters buffers, increasing protection of eastern Blackland Prairie creeks by 90%



Watershed Regulations: Flood Mitigation

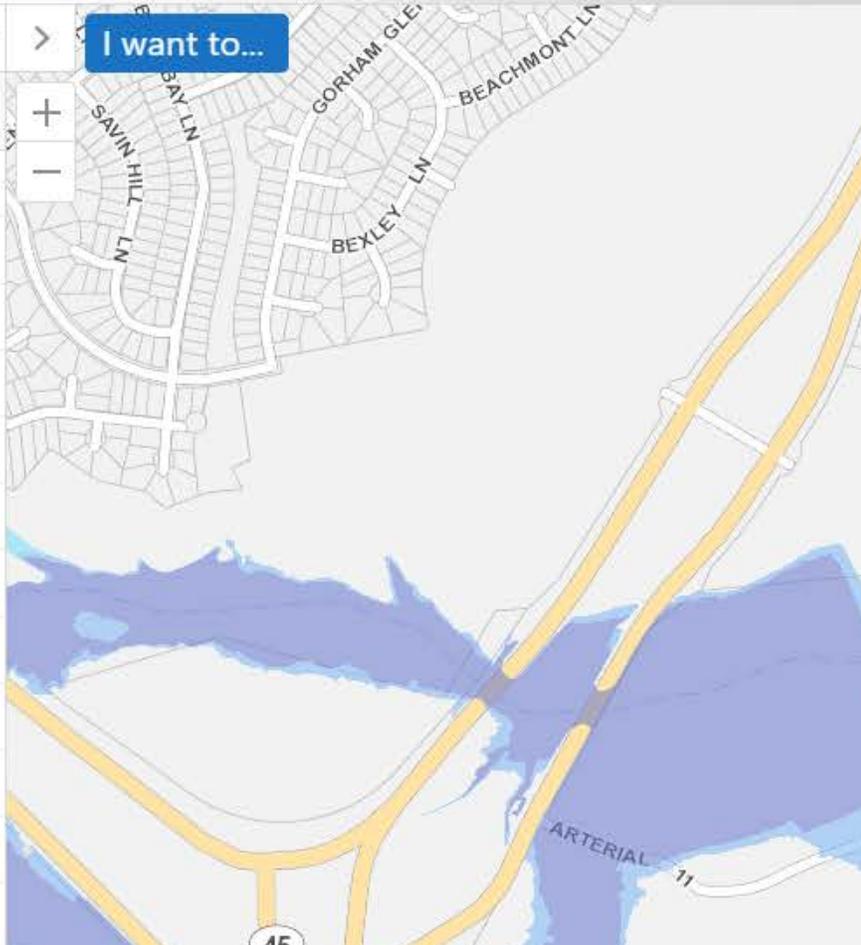


FloodPro

Layers

Filter Layers... Filter

- FloodPro
 - Address
 - Elevation Certificate
 - Letter of Map Amendment
 - Contour
 - Parcel
 - Letter of Map Revision
 - Watershed Boundary
 - Model Footprint
 - FEMA Floodplain
 - Fully Developed Floodplain
 - Creek Buffers



WPD updates flood models to reflect changing conditions and improved technology



FLOODPLAIN CHANGES

Is Your Home at Risk?



The City of Austin has completed new floodplain studies that indicate revised flood risks for several Austin watersheds, affecting thousands of properties. You are receiving this notice because we believe your property may be affected. Please keep an eye out for a more detailed letter in the next week.

The City restudies creeks to ensure accurate floodplain maps, which help both the City and the public prepare for flooding. The City has already begun using the new studies to regulate development. However, new FEMA maps will not be used for flood insurance purposes until late 2015.

Creeks Studied

- Boggy
- Bull and West Bull
- Carson
- Cottonmouth
- Dry Creek East
- Fort Branch
- Shoal
- Tannehill

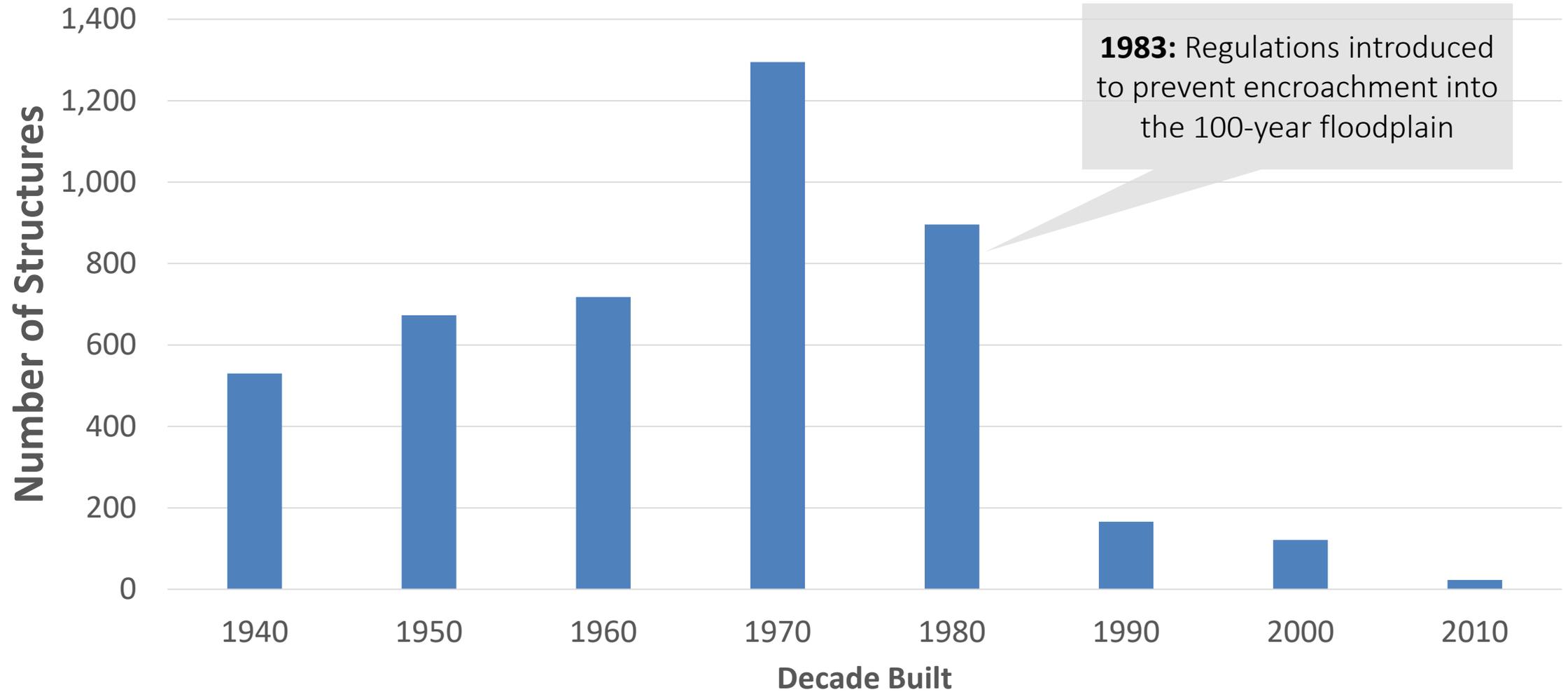
PUBLIC MEETINGS

Central Austin Friday, September 20, 1:00 p.m. One Texas Center, Room 325 505 Barton Springs Road Austin, Texas 78704	East Austin Monday, September 23, 6:30 p.m. Carver Branch Library 1161 Angelina Street Austin, Texas 78702	Northwest Austin Tuesday, September 24, 6:30 p.m. Northwest Recreation Center 2913 Northland Drive Austin, Texas 78757
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512-974-2843
Para información en español,
llame al 512-974-2843

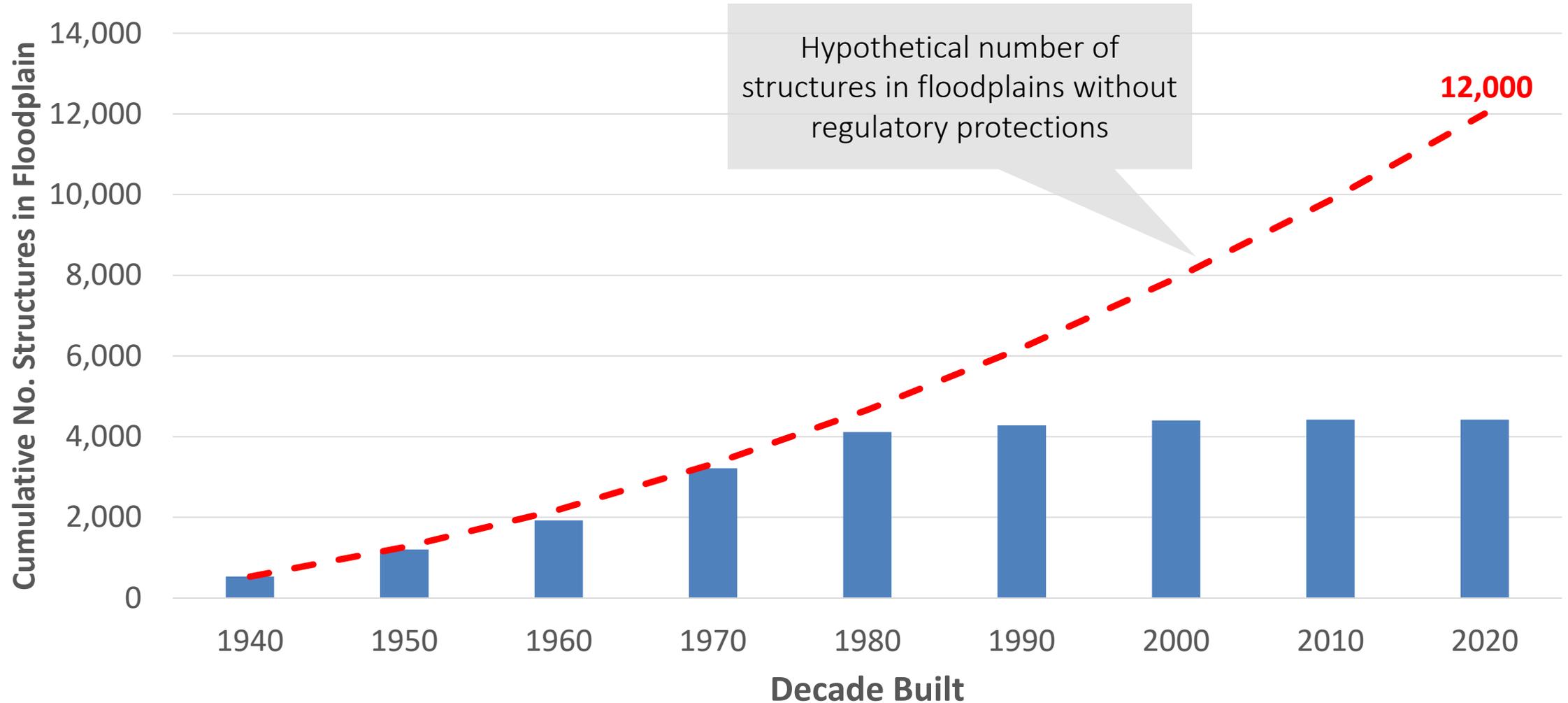
www.austintexas.gov/floodplainchanges

Watershed Regulations: Flood Mitigation



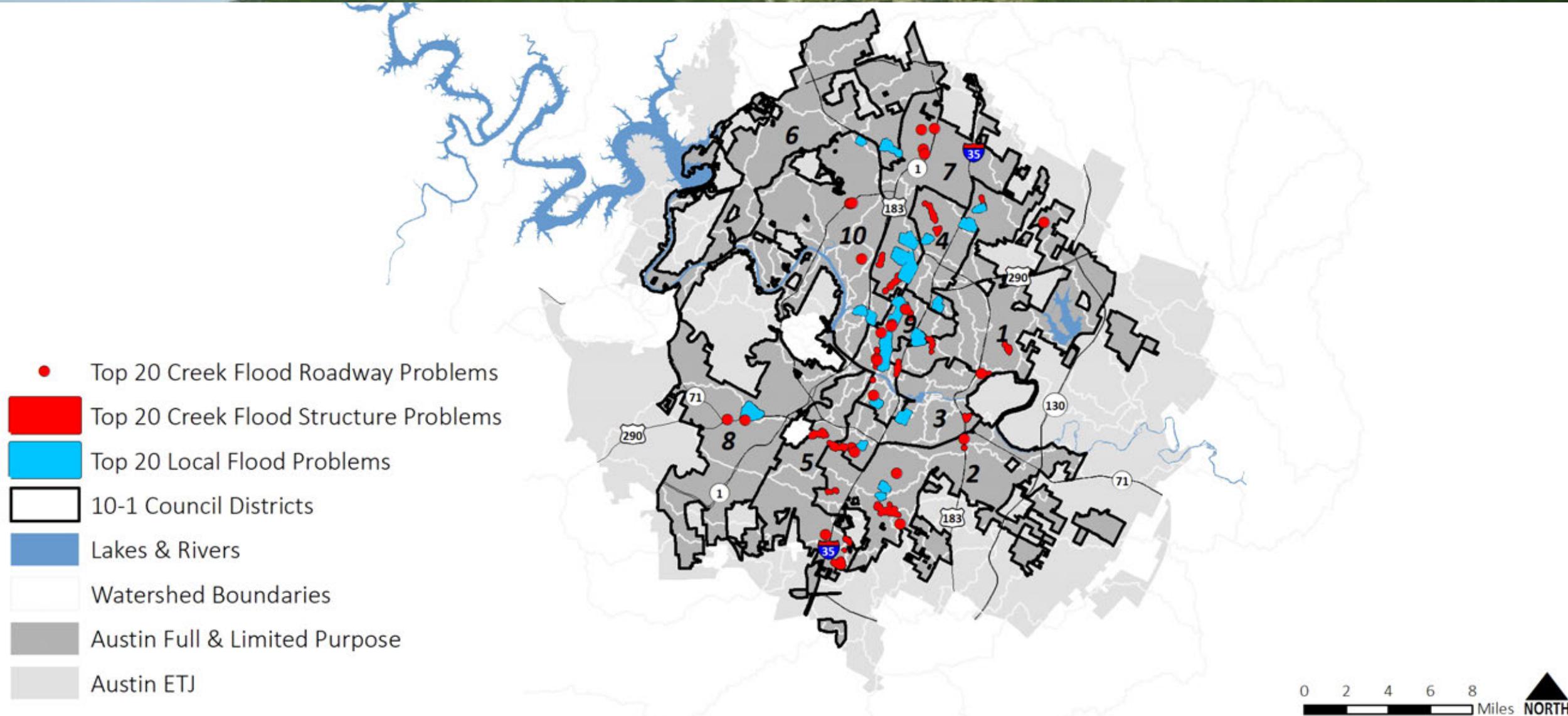
Count of structures built in the 100-year floodplain by decade

Watershed Regulations: Flood Mitigation



Count of structures built in the 100-year floodplain by decade

Watershed Challenges: Flood Mitigation



Watershed Challenges: Flood Mitigation

- Older sites built before drainage regulations were introduced in 1974 lack detention facilities and are often highly impervious
- Runoff from these sites can contribute to downstream flooding and erosion
- Redevelopment in Austin's central core has put even greater pressure on existing infrastructure, which is often aging and undersized



Watershed Challenges: Flood Mitigation

- Current code requires commercial & multifamily projects and residential subdivisions demonstrate no additional adverse flooding
- Redevelopment projects that do not increase impervious cover or change drainage patterns are generally not required to provide flood mitigation
- As Austin grows and redevelops, key opportunities for improvement are being missed in areas that already experience flooding



CodeNEXT Proposal: Flood Risk Mitigation for Redevelopment

- Redevelopment to contribute its fair share to address existing drainage issues by accounting for existing impervious cover
- Tools for mitigating flood impacts & reducing peak flows include:
 - Detention
 - Conveyance
 - Regional Stormwater Management Program (RSMP)



Subsurface Detention



Parking Lot Detention



Conveyance Upgrades



Regional Solutions

Example 1: Maria's Taco Express & Walgreens

Original Site

Maria's Taco Express & Mobile Home Park
2.9 acres



Stormdrain

Open Channel



Original Site

Localized Flood
complaint points

2003



Redevelopment

Maria's Taco
Express &
Walgreens

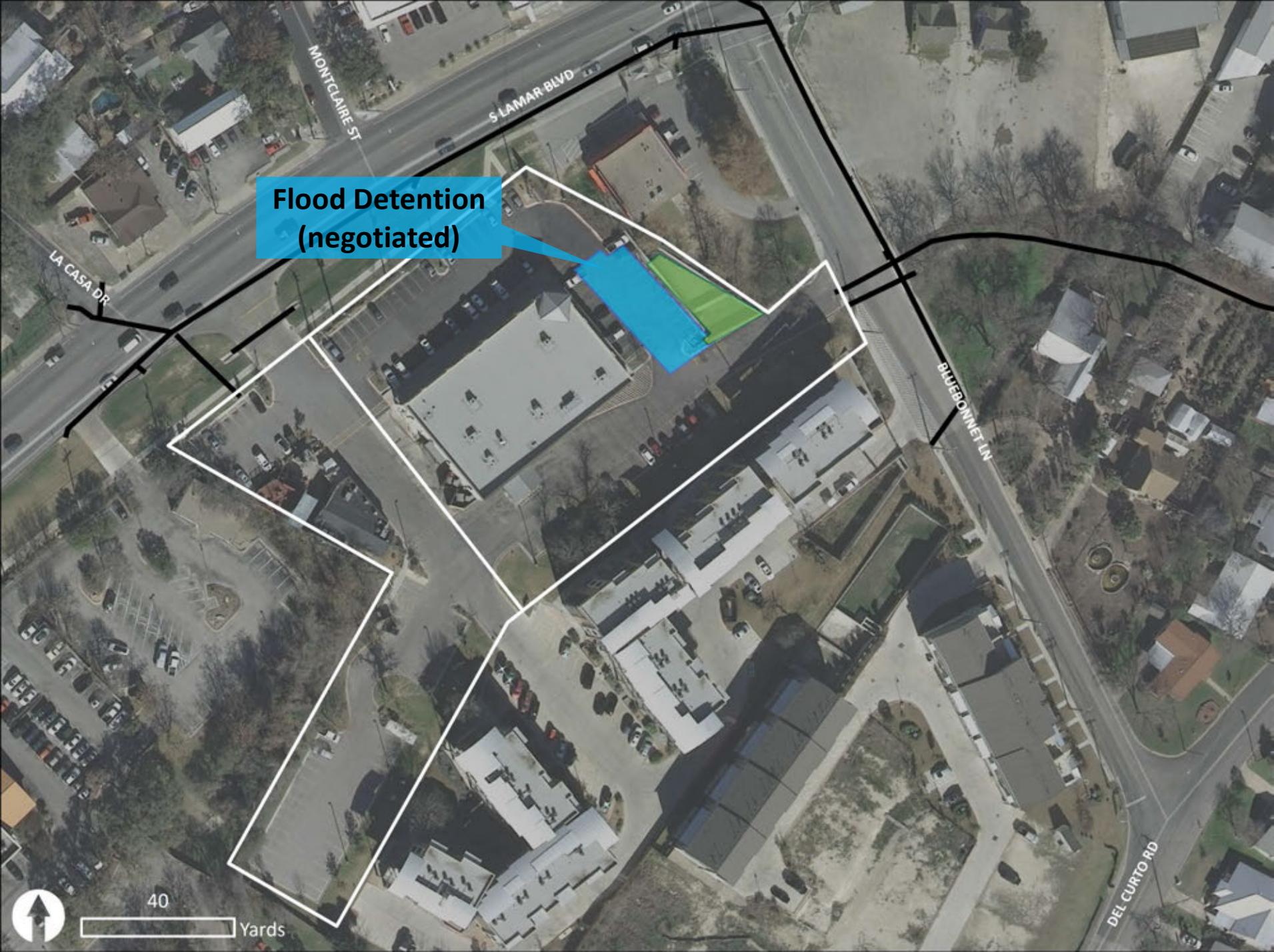
2007



Water Quality Pond (per Code)

Redevelopment

Water quality controls (required by current code)



Flood Detention
(negotiated)

Redevelopment

Added flood
detention vault
under parking lot

40
Yards

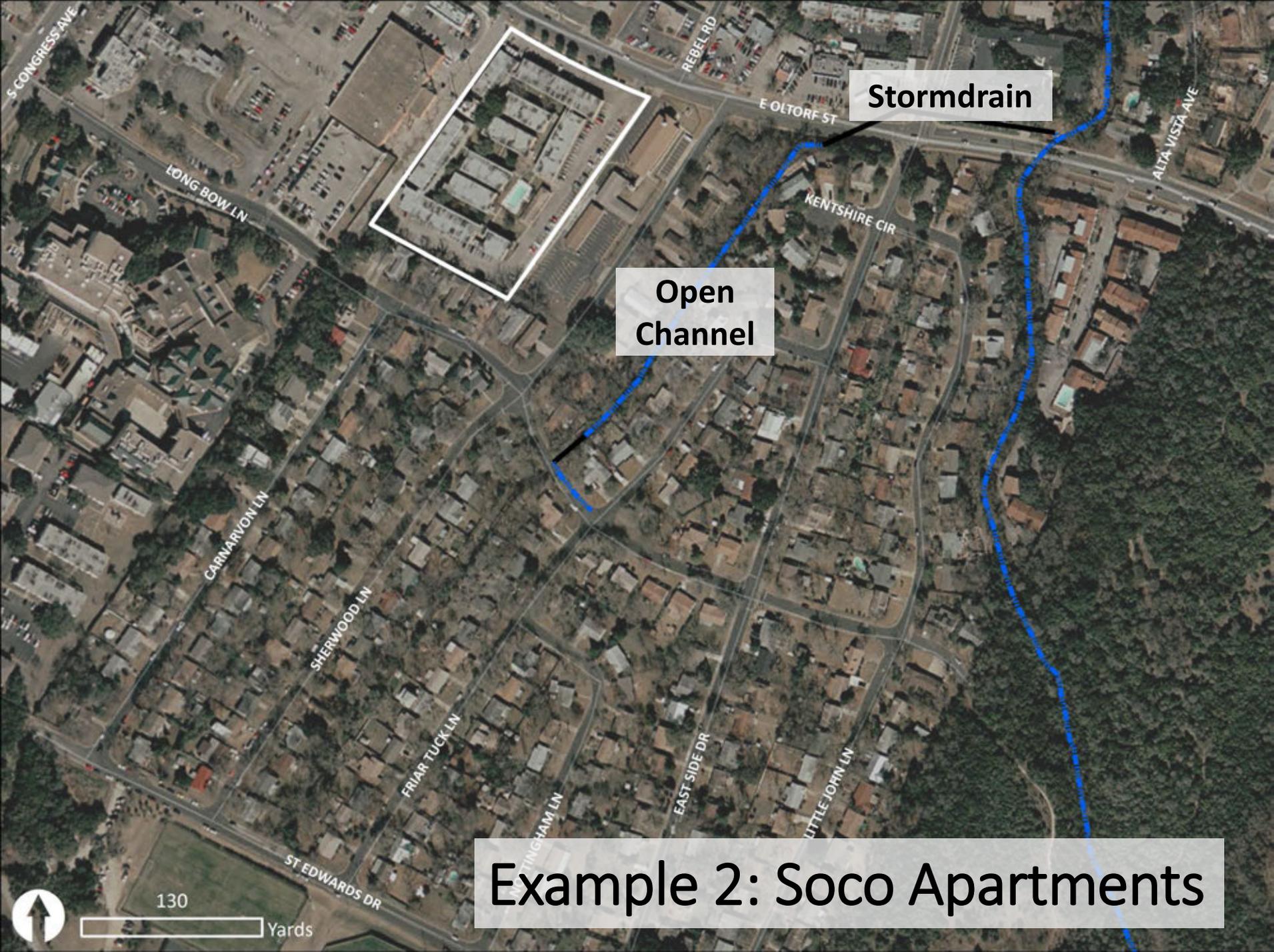
2007



Redevelopment

Upgraded
drainage
infrastructure

2007



Original Site

Sunnymeade
Apartments
3.96 acres

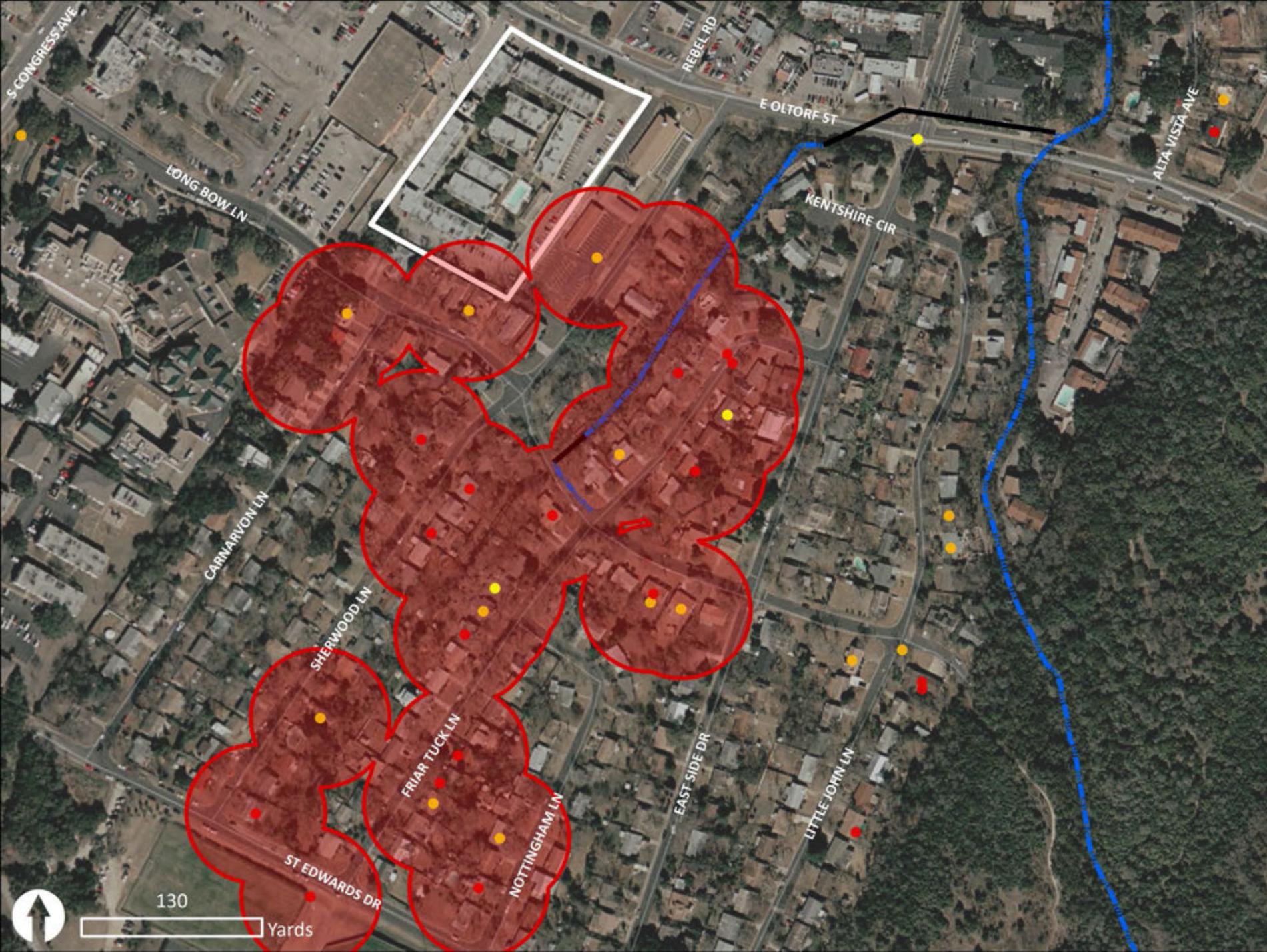
Stormdrain

Open
Channel

Example 2: Soco Apartments

Original Site

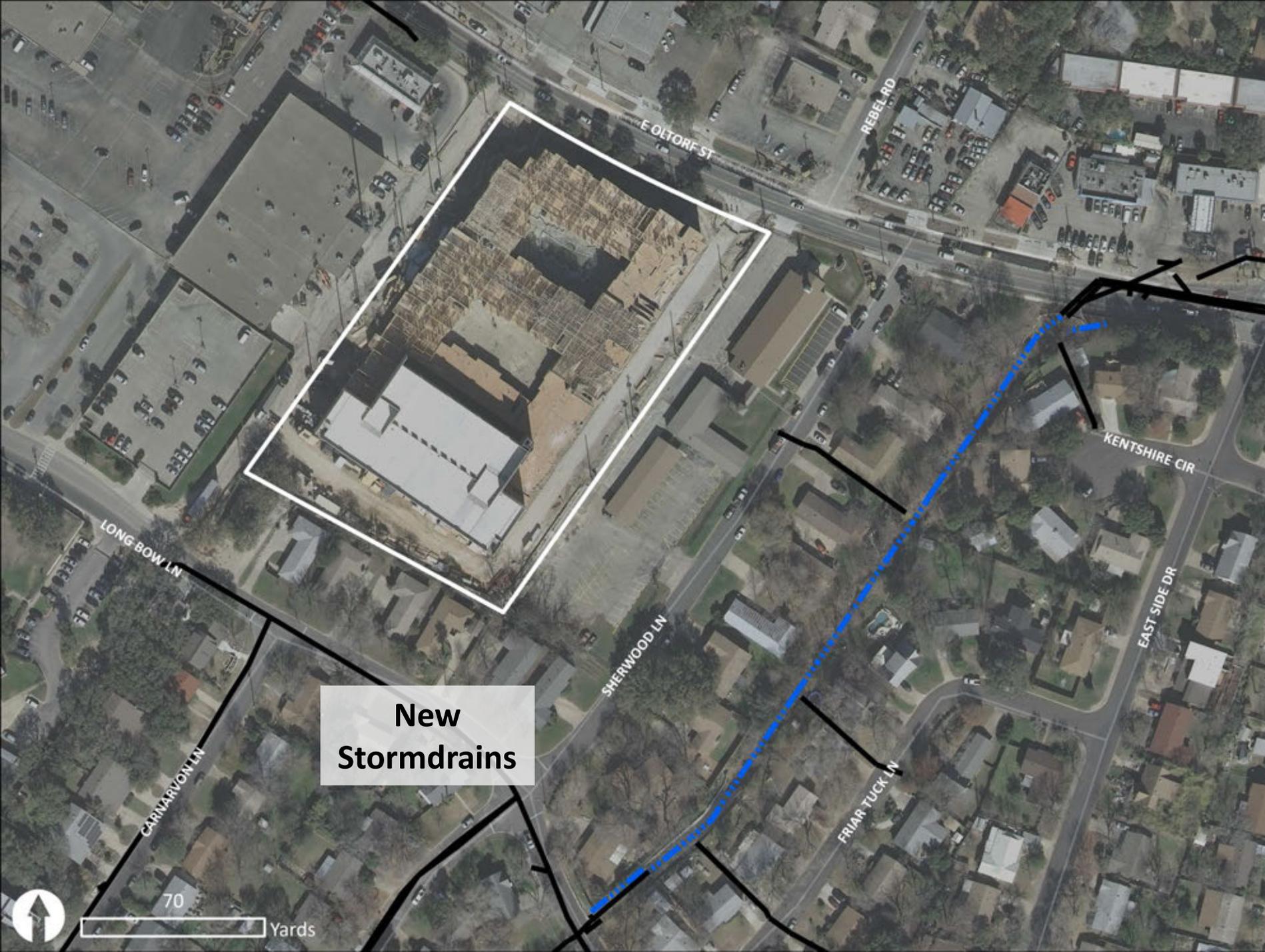
Localized Flood
complaint points



2008

Redevelopment

City improvements with Longbow Ln CIP project



New Stormdrains

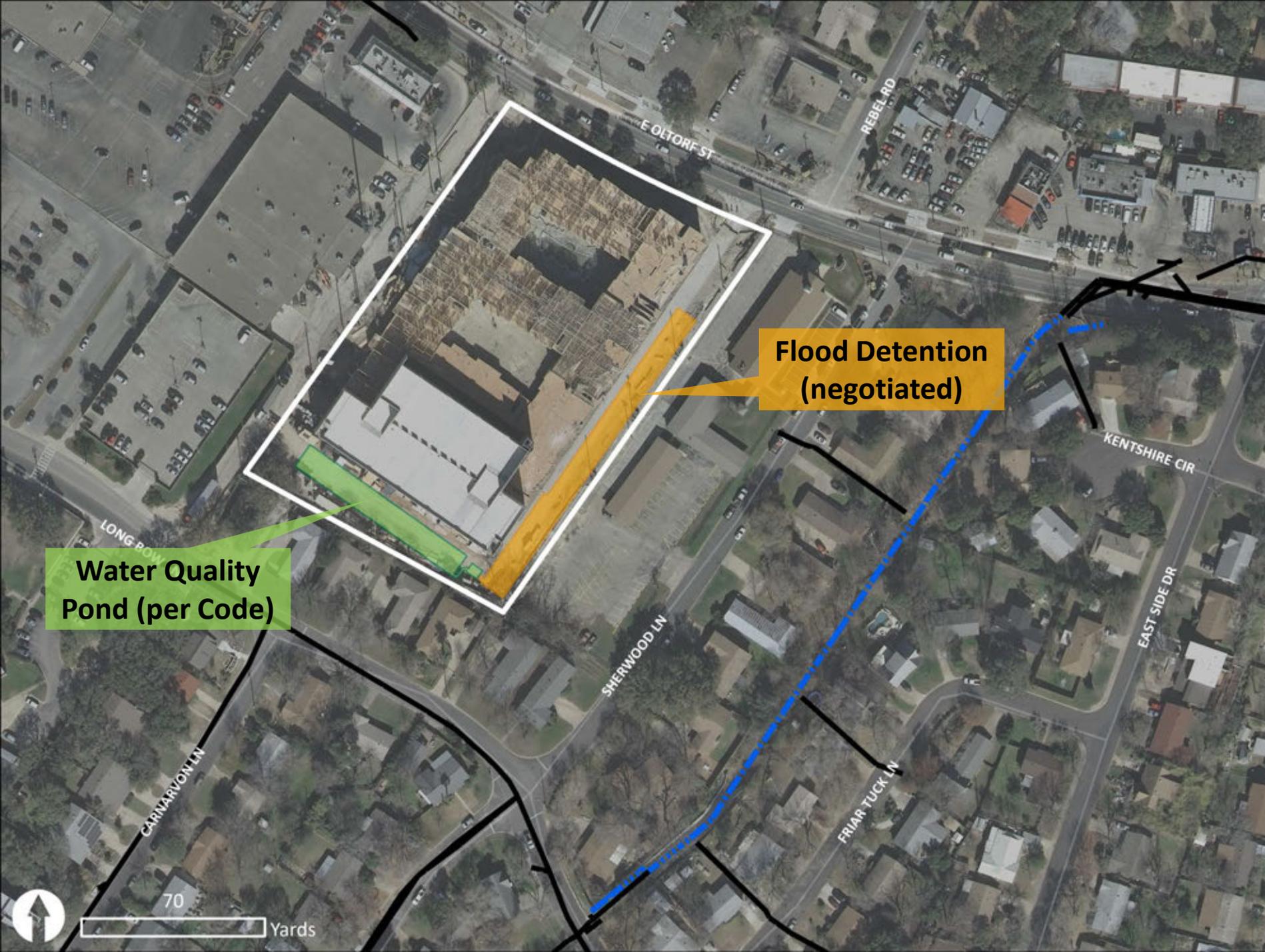
Original Site

No detention required



Redevelopment

Added flood
detention
chambers

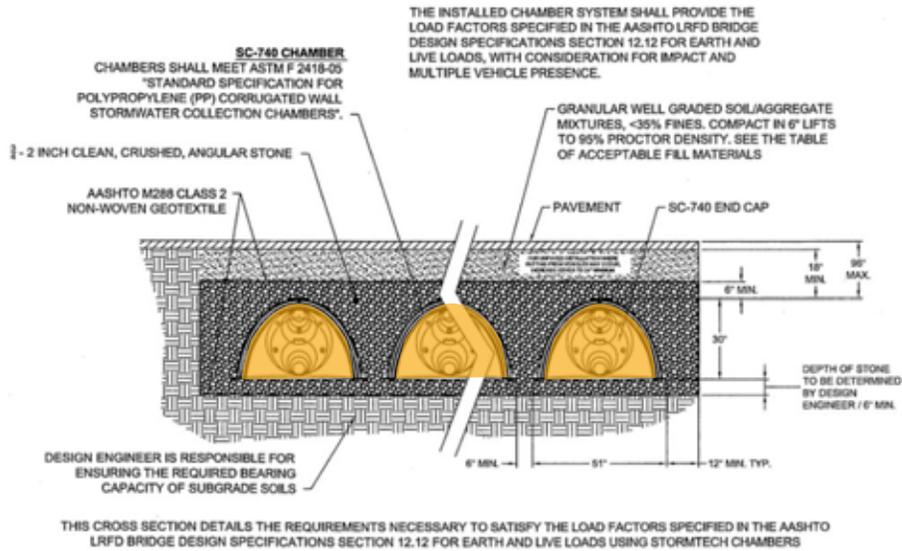
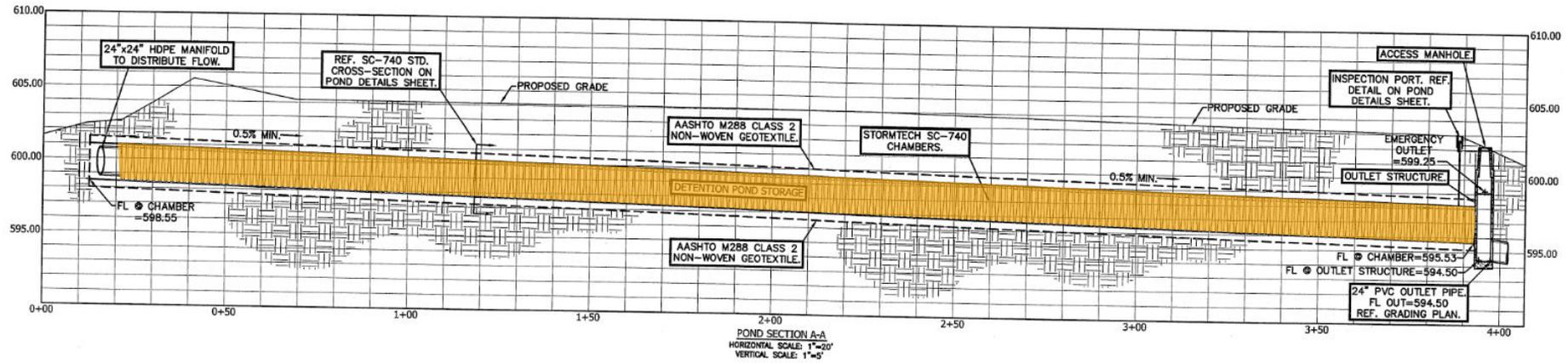


Flood Detention
(negotiated)

Water Quality
Pond (per Code)

70

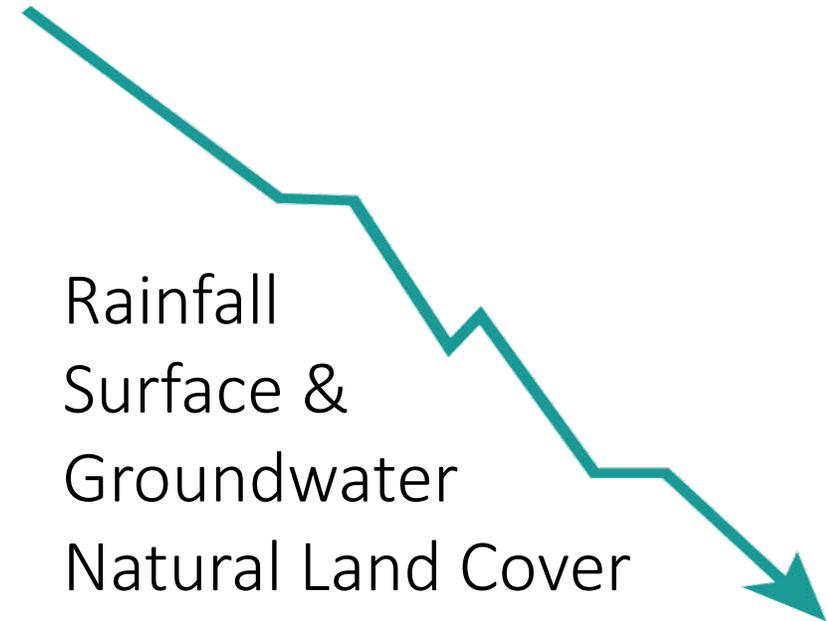
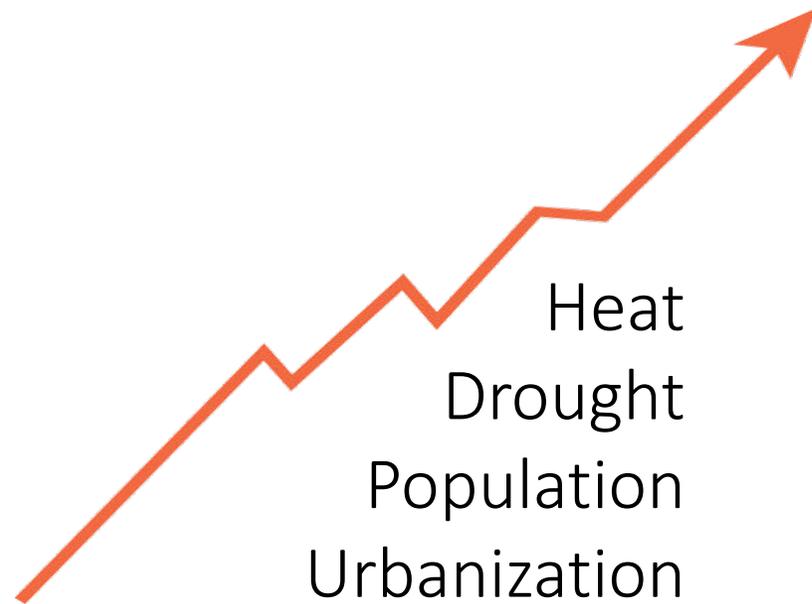
Yards



An architectural rendering of a modern urban development. The central focus is a large, multi-story building with a prominent glass facade and a flat roof. To its left is a smaller building with a green roof. In the foreground, a wide street with several cars is visible, along with a landscaped area featuring trees and a paved walkway. The background shows more buildings and greenery, suggesting a dense, green urban environment.

Green Infrastructure/ Beneficial Use of Stormwater

Watershed Challenges and the Need for Water Stewardship



Current requirements for stormwater controls do not significantly address goals of enhancing creek baseflow, sustaining on-site vegetation, and reducing potable water consumption.

CodeNEXT Proposal: Green Infrastructure & Beneficial Use of Stormwater

- **Infiltrate** to mitigate the impacts of impervious cover
 - Improve stream baseflow
 - Pollutant removal
 - Reduce creek scour and erosion
 - Improve aquatic habitat
 - Enhance recreational values
- **Conserve** potable water indoors and outdoors
- **Green stormwater infrastructure** for resiliency





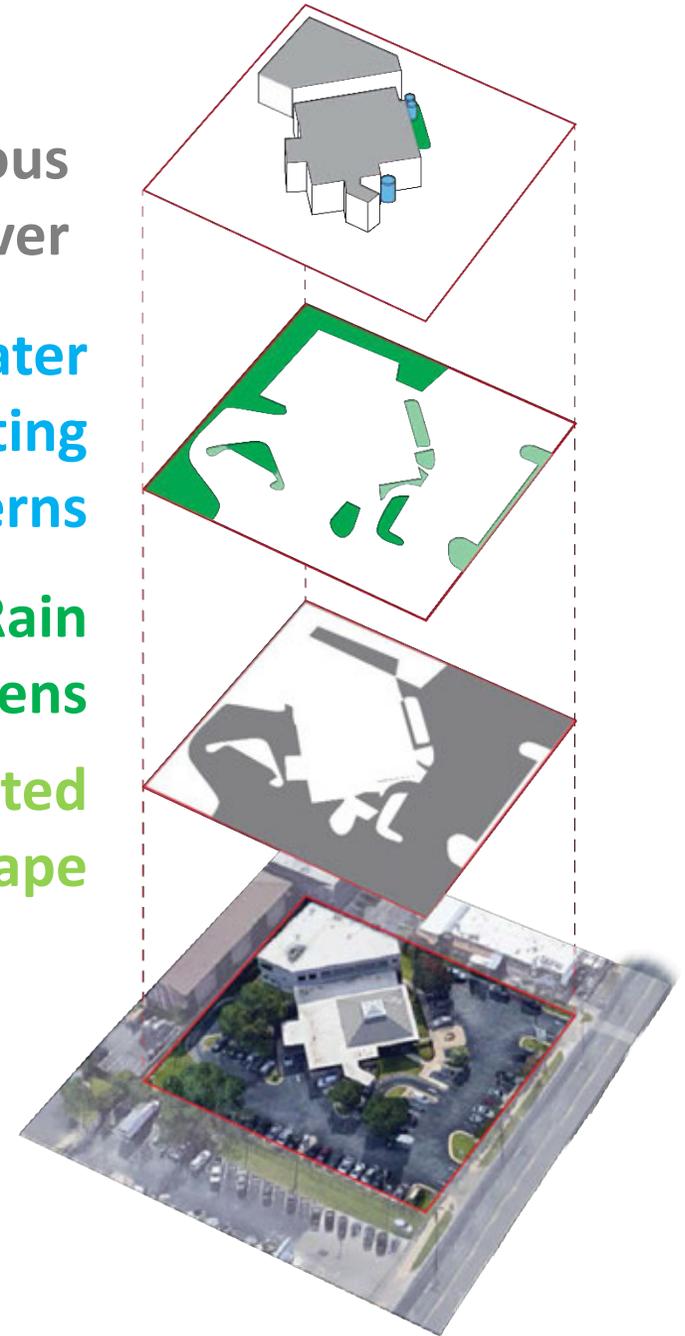
**Impervious
Cover**

**Rainwater
Harvesting
Cisterns**

**Rain
Gardens**

**Irrigated
Landscape**

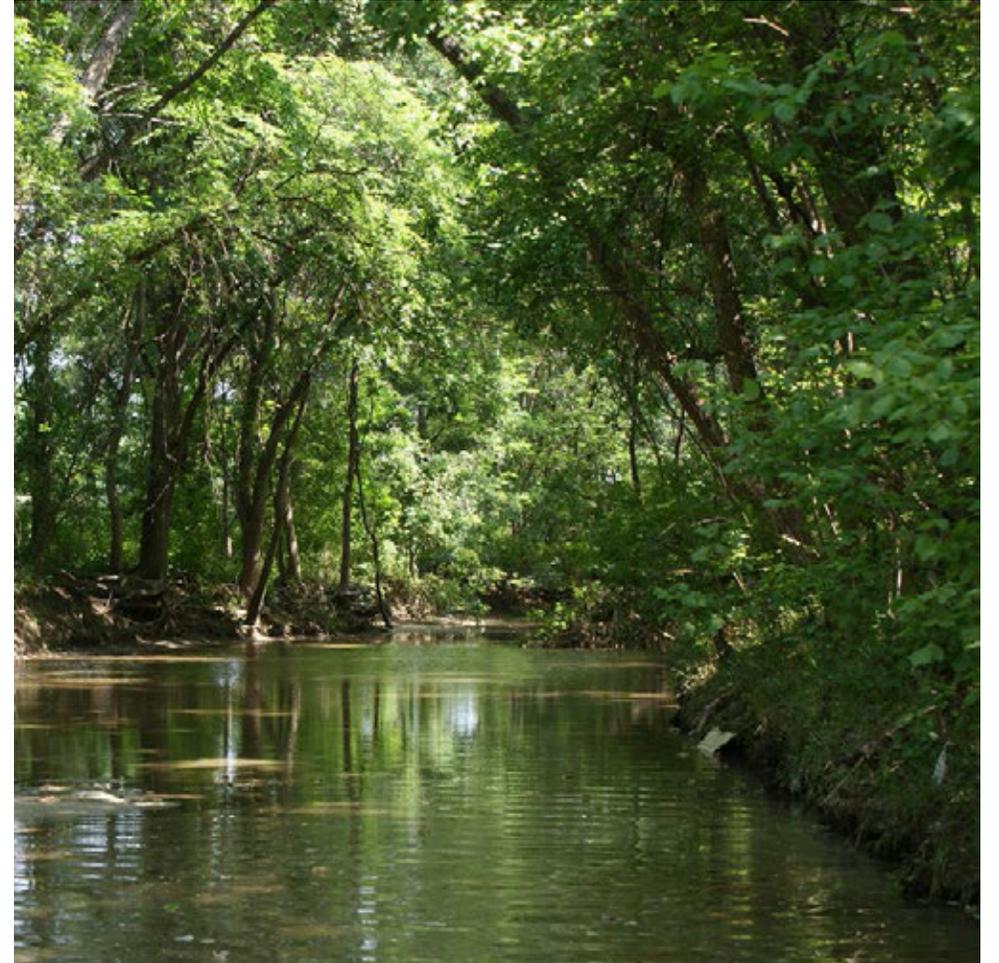
**Toilet
Flushing**



Additional Water Quality Changes

Additional water quality proposals include:

- Decompaction of soils after construction
- Revised creek crossing requirements for streets
- Limited payment-in-lieu option for small, infill subdivisions in Suburban Watersheds
- Improved code organization



An aerial architectural sketch of a city block. The drawing shows several multi-story buildings with various architectural details like windows, balconies, and flat roofs. A central green space, possibly a courtyard or park, is surrounded by trees and walkways. A street with several cars is visible on the right side. The style is a loose, hand-drawn sketch with a color palette of greens, yellows, blues, and browns. A semi-transparent horizontal band is overlaid across the middle of the image.

Next Steps

Flood Risk Mitigation for Residential Infill and Redevelopment

- Seeking to balance affordability goals with avoidance of drainage problems
- Analyses in progress to assess extent and severity of potential impacts
- Opportunity to lessen review burden for missing middle housing
- Assessing potential impacts on DSD resources & permitting process



Additional Analysis and Next Steps

- Impervious cover watershed analysis (updated)
- Modeling for estimating creek flood and localized flood impacts:
 - Redevelopment proposal
 - Residential infill
- Missing Middle: drainage & environmental considerations
- Continue work (e.g., capital projects) for existing drainage concerns
- Balance community priorities



Contact Information

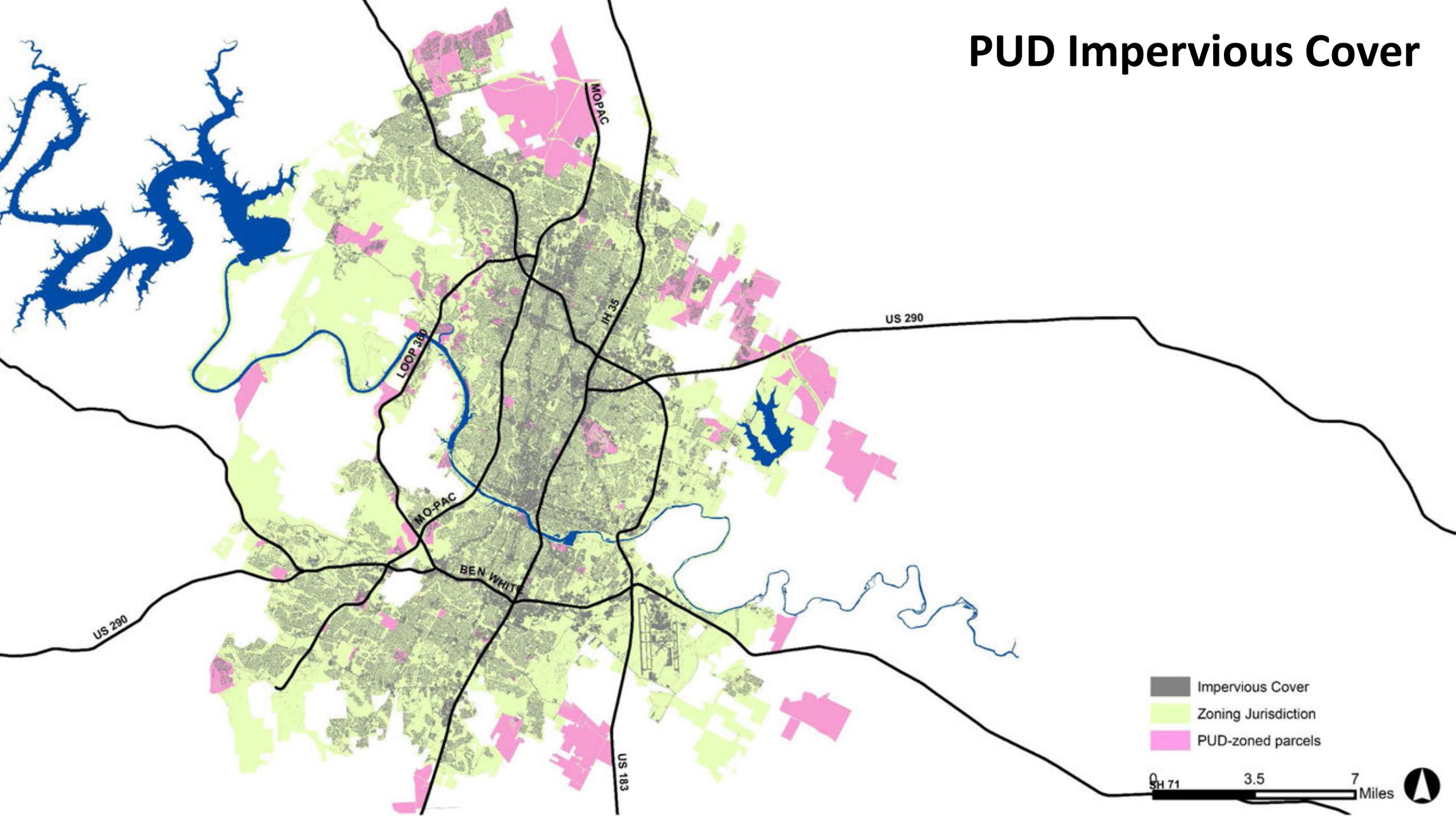
Matt Hollon

Watershed Protection Department
City of Austin

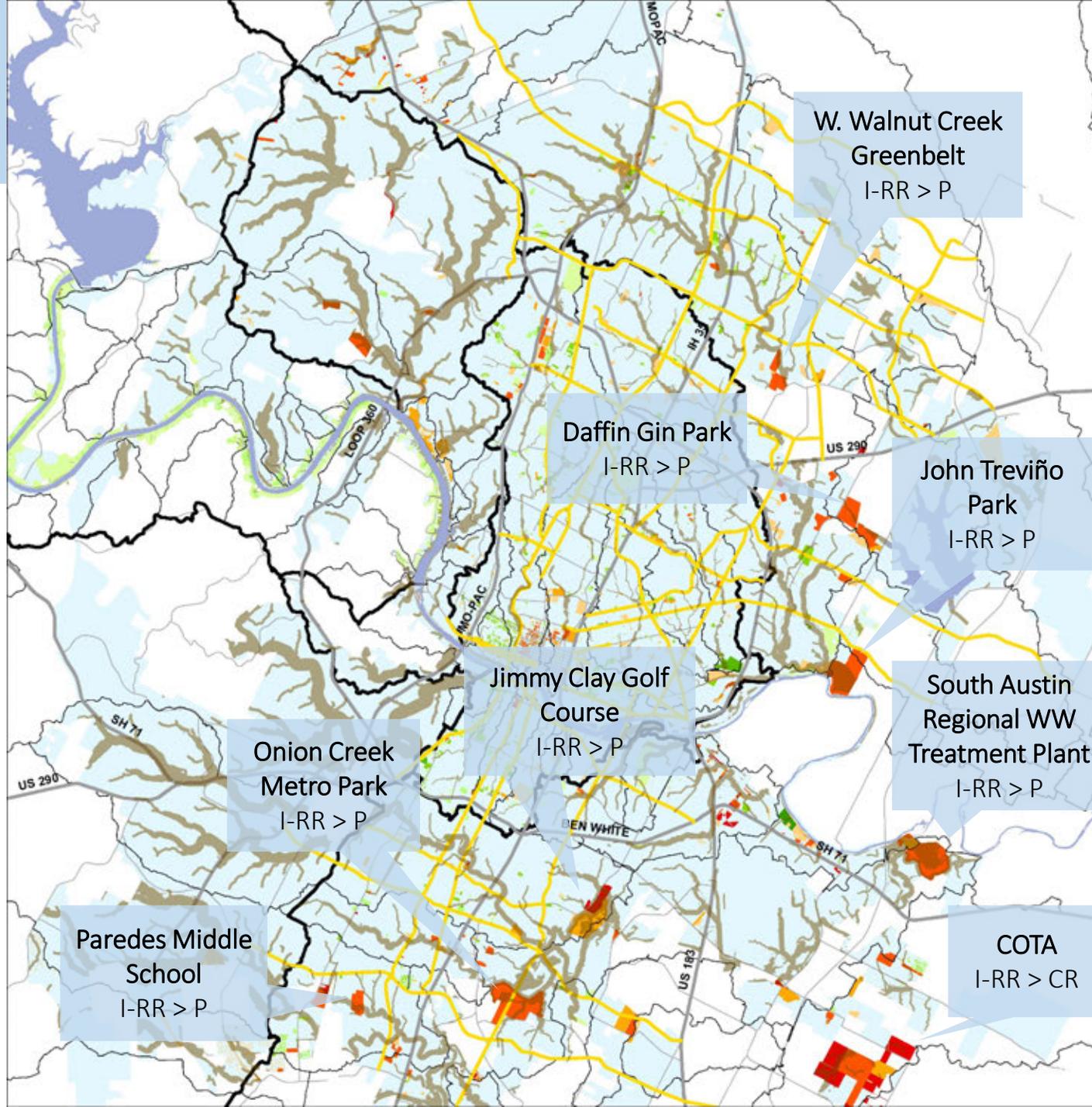
(512) 974-2212

matt.hollon@austintexas.gov

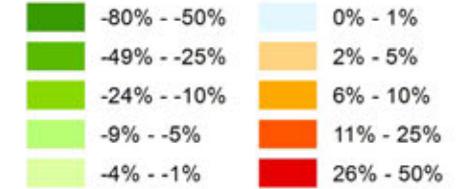
PUD Impervious Cover



Full Purpose Jurisdiction



Difference from Current Impervious Cover Max



- Floodplains and Buffers
- Water Features
- Imagine Austin Corridors

Parcels with the largest increases in max IC is largely attributable to rezoning from I-RR to a zone in alignment with its current land use

This map has been produced by the Watershed Protection Department for the sole purpose of geographic reference. No warranty is made by the City of Austin regarding specific accuracy or completeness.

